Sessile Serrated Colorectal Lesions: Endoscopic Features and Resection

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Abstract

Serrated lesions in the lower gastrointestinal tract can be subclassified as hyperplastic polyps and serrated adenomas. Serrated adenomas have a potential risk for transformation into colorectal carcinoma. Detection and differentiation of serrated lesions is therefore important. Here the authors show morphology and resection of different serrated lesions and explain differentiation from adenomas. This article is part of an expert video encyclopedia.

Keywords

Colorectal cancer; Sessile serrated adenoma; Standard endoscopy; Video.

Video Related to this Article

Video available to view or download at doi:10.1016/S2212-0971(13)70179-1

Technique

High-definition white-light endoscopy, chromoendoscopy and indigo carmine staining, endoscopic mucosal resection.

Materials

- Endoscope: EC-530MP; Fujinon Europe, Willich, Germany.
- Solution: Indigo carmine; Inhouse pharmacy, Dr. Horst-Schmidt-Klinik, Wiesbaden, Germany. (0.5%).
- Spraying catheter: PW-5L-1; Olympus, Tokyo, Japan.
- Snare: Standard braided snare 25 and 15 mm; Olympus, Tokyo, Japan.
- Injection needle: Injector Force; Olympus, Tokyo, Japan.

Background and Endoscopic Procedure

Serrated lesions have a potential risk of progressing into colorectal cancer, and it is estimated that up to 30% of colon cancers derive from serrated lesions[1] through the serrated pathway.[2] Within the group of serrated lesions hyperplastic polyps (HPs) and serrated adenomas are also distinguished. Serrated adenomas can be subdivided into traditional serrated adenomas (TSA) and sessile serrated adenomas (SSA). TSA are very rare. They are mostly reddish, pedunculated lesions in the left-sided colon and hardly distinguishable from tubular adenoma.[3] SSAs are typically normochromatic or pale, flat or sessile lesions that are mostly located in the right-sided colon. Typically they have a star-like pit pattern and a yellowish mucus layer on the surface. HPs are the most frequent polyps in the lower GI tract. They account for nearly 85% of serrated polyps.[4] They are usually small, pale, and polypoid lesions that are preferably localized in the rectosigmoid region. The pit pattern of HP cannot be distinguished from SSA (Kudo pit pattern type II). Although size and location might help to differentiate between HP and SSA, definite diagnosis can only be done by histological work-up. There is no clear evidence in the management of HP. Current recommendations suggest that small (<1 cm), pale polyps in the rectosigmoid do not need any intervention. Pedunculated (>1 cm) distal lesions are suspicious for TSA or other adenoma and should be resected. Right-sided, sessile, pale lesions are suspicious for SSA. Patients with SSA do have an increased risk of harboring synchronous colorectal lesions elsewhere.[1] It is recommended to use chromoendoscopy with indigo carmine staining in these patients to increase detection rate of flat lesions.

Key Learning Points/Tips and Tricks

- HPs are usually small (<5 mm) and mostly located in the rectosigmoid. They are nonneoplastic and do not need to be resected if <1 cm.
- SSA are predominantly located in the right-sided colon. They are pale, mostly with a flat phenotype and difficult to identify. Look for layers of yellowish mucus, which frequently covers these adenomas.
- Use indigo carmine staining in patients with high risk for SSA.

Scripted Voiceover

Time (min:sec)	*Voiceover text*
00:01	This is a screening colonoscopy in a 64-year-old healthy female. During slow withdrawal in the ascending colon

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we detect a small and reddish mucosal irregularity at the 2 o'clock position.

00:20 Just 2 cm distal to this lesion we detect this peculiar, thickened fold. Leťs have a closer look at the fold. Compared to the other lesion, it is pale and flat. Note that there is also some yellowish mucus on the surface.

00:55 According to the Paris classification a flat, slightly elevated phenotype is classified as a type IIa lesion. This lesion is highly suspicious for a sessile serrated adenoma.

01:22 Let's start resection of the proximal lesion. First perform submucosal injection to lift the lesion from the muscular layer and minimize the risk of perforation. The injection-fluid we use contains saline with minimal amounts of indigo carmine. Blue coloration of the submucosa is helpful in demarcating the margin of the lesion.

02:11 This lesion shows regular, large and longitude pits, corresponding to Kudo's Pit Patter type III L. (Speak: 3 L) This is the typical morphology of a tubular adenoma.

03:00 After polypectomy the wound ground is clearly visible and without residual tissue.

03:09 Now proceed in lifting the large sessile serrated adenoma by submucosal injection.

03:35 This lesion has a very smooth and star-like pit pattern. The vessels run in a honeycomb fashion on the surface. This pattern is classified as Kudo's pit pattern type II.

03:58 Now use the tip of the snare to mark the margins of the lesion with the soft coagulation mode. In this case delineation of the large laterally spreading lesion might facilitate confirmation of complete removal.

05:20 As the lesions diameter is about 35 mm, use piecemeal-resection. The reason is simple: The time that current is applied during closure of the snare and resection of the lesion strongly correlates to the risk of perforation and post-coagulation-syndrome. Therefore en-bloc resection of a large lesion carries a high risk of perforation in the right colon.

At piecemeal resection it is of the utmost importance to avoid tissue bridges in the resection field. Before closing the snare completely, reduce bowel wall tension by suction of air.

06:00 At the end of this procedure the lesion is completely removed. There are no remnants left at the resection margin.

References

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